

Pest Alert

Plant Protection and Quarantine

July 2010

Cotton Seed Bug (*Oxycarenus hyalinipennis*)

The cotton seed bug is a pest of cotton and other members of the Malvaceae plant family, including kenaf, okra, and roselle. This insect causes economic damage when it feeds on cotton seeds, reducing seed germination and oil quality. Additional losses occur when cotton seed bugs are crushed during ginning, as they lower its quality and stain the lint.

The cotton seed bug has a worldwide distribution, excluding most of North America. Present in the West Indies since the early 1990s, the first U.S. detection of the pest occurred in Puerto Rico in January 2010. In March 2010, the cotton seed bug was found in the Florida Keys, which signified the first detection in the continental United States. It was later detected in April 2010 in the U.S. Virgin Islands.

The U.S. Department of Agriculture (USDA) is working closely with stakeholders to survey for the cotton seed bug as part of early detection and delimiting efforts.

Description

Adult cotton seed bugs are black with translucent white wings. Males and females have similar coloration, but males are slightly smaller than females. Eggs are oval, less than 1 millimeter in

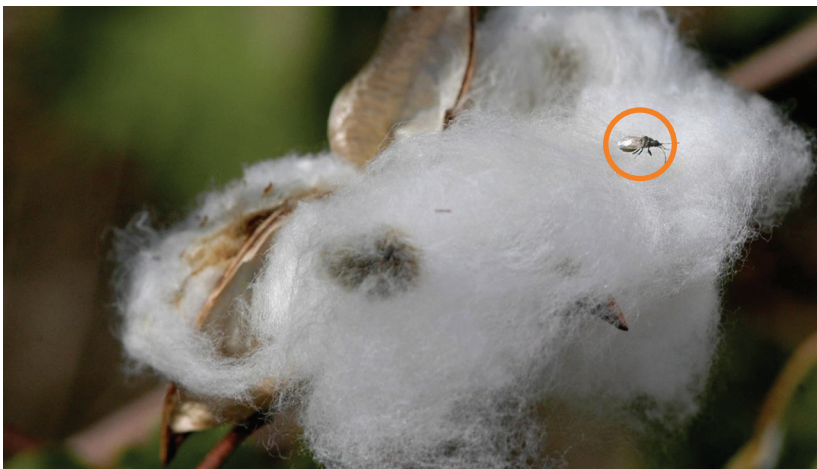


Figure 1. Adult cotton seed bug in a cotton ball (USDA-APHIS, Julio A. Navarro)



Figure 2. Adult cotton seed bug in a crevice of plant branches (USDA-APHIS, Julio A. Navarro)

size. This pest goes through five nymphal stages, or instars, which have pink to red abdomens.

Where To Look

Adult cotton seed bugs prefer crevices in such resting sites as tree trunks, telephone poles, or wooden posts; undersides of tree leaves; pods of legumes; dried flower heads; grass roots; and under sheath leaves of corn

and sugarcane. Adult clusters have also been observed on the leaves of mango, guava, and citrus plants.

Life Cycle

Cotton seed bugs begin feeding, mating, and laying eggs when the seeds of their hosts become available. The resting adults leave their shelters and move to young cotton plants, waiting for

the bolls to ripen and open. The bugs cannot pierce unopened bolls to feed. Each female lays about 20 eggs in the lint of opened bolls and, less often, on green bolls. The nymphs undergo five instars in 2 weeks or more. A generation from egg to adult can be completed in 20 days, and the pest goes through three to four generations per year. The last generation undergoes an inactive, dormant phase (aestivation), and no feeding or mating occurs until host food is available again.

Survey and Detection

USDA encourages growers and producers of cotton and other host plants to conduct their own survey activities for cotton seed bugs and report any findings to their State Plant Regulatory Official or county extension office. Establishing sentinel survey sites, a fixed site with host plants that is visited repeatedly to inspect for the presence of a target pest, is an effective way to detect the presence of the cotton seed bug. Areas with large populations of easily accessible host plants make optimal sentinel survey sites. For the cotton seed bug, effective sites include agricultural fields where okra is produced and natural areas where wild cotton grows.

To detect populations of the cotton seed bug, surveyors should conduct visual examinations of host plants at sentinel site locations on a routine basis, particularly when the host plants are in seed. In cotton, these bugs are most



Figure 3. Adult cotton seed bug on okra (USDA-APHIS, Julio A. Navarro)



Figure 4. Adult cotton seed bug in a cotton ball (USDA-APHIS, Julio A. Navarro)

visible when the plants have freshly matured bolls with dry seeds. While the plants are in seed, bolls should be removed and inspected for the presence of seed-feeding insects. USDA also recommends sifting through leaf litter below the host plants for the presence of the pest, particularly during non-seed-producing periods.

For more information about what to look for when surveying for this pest, consult the *Screening Aid for Cotton Seed Bug* developed by USDA's Cooperative Agriculture Pest Survey program. You can download a copy of this publication online at <http://pest.ceris.purdue.edu/caps/screening.php>; click on "Cotton Seed Bug – *Oxycarenus hyalinipennis*" under the "Miscellaneous Arthropod Pests" heading.

Report Your Findings

Proper identification of the cotton seed bug is important. There are several closely related species of *Oxycarenus*, some of which have similar hosts, that can be confused easily with the cotton seed bug (*O. hyalinipennis*). **If you find an insect that you suspect is the cotton seed bug, please contact your local extension office or State Plant Regulatory Official to have the specimen identified properly.**

To locate an extension specialist near you, go to USDA's National Institute of Food and Agriculture Web site at www.nifa.usda.gov/Extension/. A directory of State Plant Regulatory Officials is available on the National Plant Board Web site at www.nationalplantboard.org/member/index.html.

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